

Food-fishes, Oysters, Mussels and other Molluscs, Shrimps, Lobsters, and Crabs, all receiving due notice from both the life-history and economical points of view. Some of these subjects are treated with a profusion of details, much of which is entirely original, which raises Dr. Murie's contribution to a high scientific level. The compilation of a vast amount of scattered information respecting rare occurrences will prove a great boon to workers on the distribution of fishes on our coasts—a subject on which much remains to be done.

The chapter dealing with the Herring family (Clupeidæ) is a most important piece of work, and the contribution therein on Whitebait adds greatly to our knowledge of a question which has been frequently discussed before and since Dr. Günther settled the question by ascertaining the Whitebait of the Thames to consist mainly of young herrings. Dr. Murie has taken great pains to ascertain the nature of the mixed series of small fish &c. which are sent collectively to the market under this commonly known appellation, and he has added 20 to the 11 species which had already been listed by Frank Buckland in 1879.

In dealing with the Weavers (*Trachinus*), so notoriously dreaded by whitebaiters and shrimpers for their poisonous stings, the author contributes a useful footnote recommending the best treatment in case of accident.

Among the more remarkable fishes mentioned in the report, *Aphia pellucida*, the White Goby, deserves special attention. It was supposed to be rare in the district, but Dr. Murie finds it astonishingly numerous, especially in March and April. According to Prof. Collett, who has made a special study of this curious fish in the Christiania Fjord, the adults die after breeding, and therefore accomplish their life in the course of a year. Dr. Murie throws doubt on this conclusion, for reasons which, however, are reserved for a later communication.

In concluding this brief notice, we congratulate the Kent and Essex Fisheries Committee on having had the good fortune of bringing out a little book which will render such signal service, and we look forward to the publication of further instalments of the series of Reports of which the first is now before us.

PROCEEDINGS OF LEARNED SOCIETIES.

GEOLOGICAL SOCIETY.

November 18th, 1903.—Sir Archibald Geikie, D.C.L., D.Sc., F.R.S.,
Vice-President, in the Chair.

The following communications were read:—

1. 'Notes on some Upper Jurassic Ammonites, with special reference to Specimens in the University Museum, Oxford.' By Miss Maud Healey.

In the course of re-arranging the Upper Jurassic fossils in the

Oxford University Museum, the attention of the Authoress has been called to the large amount of prevailing misconception with regard to Sowerby's species *Ammonites plicatilis* and *Am. biplea*. The type-specimen of *Perisphinctes plicatilis* (Sow.) is refigured and described. It is in the form of a cast, but only an indefinite statement exists as to the locality from which it was derived. It appears to be an Upper Corallian form, and is usually taken as the zone-fossil of that horizon. Sowerby's two figures of *Perisphinctes biplea* represent different specimens, one of which is dismissed from consideration. The other, probably from a Kimmeridge-Clay nodule found in the Suffolk Drift, is refigured and described. The Authoress considers that it would be wisest to abandon the name altogether, or at least to restrict it to the abnormal specimen to which it was first attached. The original specimen of *Perisphinctes variocostatus* (Buckland) came from the so-called Oxford Clay at Hawnes, 4 miles south of Bedford; but the Authoress gives evidence in favour of her belief that it was really derived from the Ampthill Clay. Sowerby's *Ammonites rotundus* is the last species figured, and it is doubtfully identified as a variety of *Olcostephanus Pallasianus* (d'Orb.). It was derived from the Kimmeridge Clay of Chippinghurst, 6½ miles south of Oxford, and is the zone-fossil of the Upper Kimmeridge Clay.

2. 'On the Occurrence of *Edestus* in the Coal-Measures of Britain.'
By Edwin Tulley Newton, Esq., F.R.S., V.P.G.S.

This genus was originally described from the United States, and was afterwards recognized in beds of similar age in Russia and Australia. The genus was afterwards placed with *Helicoprion* and *Campyloprion* in the family Edestidæ. The specimen described in the present paper was obtained by Mr. J. Pringle from one of the marine bands which occurs between the 'Twist Coal' and the 'Gin-Mine Coal,' in the Smallthorn sinking of Messrs. Robert Heath & Son's pits at Nettlebank (North Staffordshire). Several other marine bands, chiefly met with during the sinking of shafts in this coalfield, have been studied by Mr. J. T. Stobbs, who called the attention of the Geological Survey to the exposure from which this specimen was obtained. The specimen is a single segment of a fossil very closely resembling *Edestus minor*, and consists of an elongated basal portion, bearing at one extremity a smoothed, enamelled, and serrated crown. A description of the fossil shows that it is not to be referred to any existing species, and a new name is given to it. While it seems most in accordance with present knowledge to regard the 'spiral saw' of *Helicoprion* as the enrolled, symphysial dentition of an Elasmobranch, possibly allied to the Cestracionts, it does not seem nearly so probable that the forms referred to *Edestus* are of the same nature. In the opinion of the Author the latter are more likely to be dorsal defences. The paper concludes with a bibliography of the subject.

January 6th, 1904.—Sir Archibald Geikie, D.C.L., D.Sc., Sec.R.S.,
Vice-President, in the Chair.

The following communication was read:—

‘Implementiferous Sections at Wolvercote (Oxfordshire).’ By
Alexander Montgomerie Bell, Esq., M.A., F.G.S.

This section shows the following beds:—(1) Oxford Clay; (2) old surface, in which are pits or troughs chiefly filled with gravel and enveloped in weathered clay; (3) a large river-bed, containing gravel at the base, and layers of clay above; (4) Neolithic surface-layer, 2 feet thick. The gravel of the river-bed contains quartzite-pebbles, some of exceptional size, and is covered by a thin lenticular layer of peat and sand, yielding thirty flowering-plants and many mosses; the clays over this have probably been formed in a lake, possibly due to a beaver-dam. In the gravel-bed are found implements formed of flint quarried from the Chalk, or of quartzite from pebbles of the Northern Drift, all remarkable for their size, beauty, and freshness, together with the remains of large mammals, including the mammoth. The old surface, from which the river-bed has been eroded, has also yielded implements associated with quartzites, quartz-pebbles, and lydianstone, gravel from the Thames Valley, limestone-pebbles, Oolitic fossils, and sand. This deposit is regarded as remanié from the Northern Drift, probably laid down under the action of ice, as shown by the flask-like shape of the pits, the vertical position of some of the pebbles, and the jamming-in of masses of sand, probably in a frozen condition. Further, the Oxford Clay beneath the surface is weathered and shaken to a depth of 10 or 12 feet, except where cut off by the descending depth of the river-bed. The implements are small, ordinary in shape, and made of flint, not quarried, but mostly taken from the Drift, and they are much weathered, stained, and patinated. The occurrence of an older set of implements, differing so markedly from those of the river-drift, leads the Author to explain the peculiar implementiferous drift of Iffley as containing implements of two kinds and two dates. Those that are unweathered are contemporaneous with the deposit, and like those of the Wolvercote river-bed; while those that are stained with ochre, or deeply patinated, have been derived, like the Oolitic fossils, Tertiary conglomerate, quartzites, and volcanic rocks, from an older deposit. The Author believes that the frequent occurrence of weathered and unweathered implements in a single deposit may be explained generally in this way: and he further infers that the time between the Drift and the River-bed was prolonged, and that the interval may have been as long as that which separates the epoch of the River-bed from the present day, his evidence being simply the patination of the flints. In conclusion the Author suggests that there are three classes of implement-bearing drifts, the ice-drifts being the earliest and the river-drifts the latest, while the wash-drifts may belong to more than one stage.